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09/647,129	11/27/2000	Dieter Dohring	TURKP0114US	4043
7590	03/10/2004		EXAMINER	
Don W Bulson Renner Otto Boisselle & Sklar 1621 Euclid Avenue 19th Floor Cleveland, OH 44115			TSOY, ELENA	
		ART UNIT	PAPER NUMBER	
			1762	

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Paper No. 0304

Application Number: 09/647,129

Filing Date: November 27, 2000

Appellant(s): DOHRING, DIETER

*APR 09 2004*

Don W. Bulson  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed January 26, 2004.

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**(1) Real Party in Interest**

A statement identifying the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

**(3) Status of Claims**

The statement of the status of the claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Invention**

The summary of invention contained in the brief is correct.

**(6) Issues**

The appellant's statement of the issues in the brief is correct.

**(7) Grouping of Claims**

Appellant's brief includes a statement that claims 3, 4 and 7 stand or fall with claim 1.

Claims 1, 5 and 8 are separately argued.

**(8) ClaimsAppealed**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(9) Prior Art of Record**

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2,958,593	HOOVER ET AL	11-1960
5,344,704	O'DELL ET AL	9-1994
5,034,272	LINDGREN ET AL	7-1991

**(10) *Grounds of Rejection***

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1, 3, 4, 8** are rejected under 35 U.S.C. 103(a) as being unpatentable over Michl (US 3,135,643) in view of Hoover et al (US 2,958,593), further in view of O'Dell et al (US 5,344,704).

Michl discloses a method of impregnating paper used for the production of wear-resistant laminate material (See column 1, lines 20-24; column 10, lines 71-75) comprising: a) taking print paper 12 (See Fig. 3; column 6, lines 16-27); b) damping and impregnating the paper 12 with melamine resin (See column 3, lines 65-67; column 5, lines 58-59) by the use of nip rolls 3, 4 to remove the resin in excess of 33-42 % resin content (See Fig. 1; column 5, lines 64-66), and c) additionally coating onto said damped wet print paper an additional layer of coating resin composition comprising 100 parts of melamine resin (See column 5, lines 16-19, 67-69), 5-30 parts of the abrasive substance (See column 3, lines 33-42, 67-70; column 12, lines 1-3) and 1-3

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% or less of wet tack reducing aid (separating agent) (See column 3, lines 54-56) using a knife coater (See column 5, lines 67-70); wherein dry resin content of the impregnated print paper is 33-42 % (See column 5, lines 60-61) and the weight of dry coating is about 0.022-0.033 pound per square foot of the impregnated paper (See column 6, lines 1-3). Considering the fact that a surface weight (density) of print paper 12 used for impregnating with a resin usually is of about 80g/m<sup>2</sup>, as evidenced by Lindgren et al (See US 5,034,272, column 4, lines 21-27), final area density amounts to about 201 % since a surface weight (density) of dry coating is 0.022 pound per square foot (107 g/m<sup>2</sup>) and a surface weight (density) of dry impregnated paper is 40 x 1.42 = 56 g/m<sup>2</sup>. The impregnated paper coated with the dispersion containing the abrasive substance is pressed to form a panel (See column 3, lines 67-75; column 4, 1-2).

It is the Examiner's position that the nip rolls 3, 4 for removing the excess of resin are in fact metering rollers.

Michl fails to teach that: the step c) is carried out by spraying instead of knife coater; and the amino resin dispersion further comprises flow-promoting agent (Claim 1) such as polyglycol ether (Claim 4).

Hoover et al teach that a dispersion of abrasive particles in amino-containing resin can be applied onto the surface of a web by spraying through nozzles by adjusting viscosity with a flow-promoting agent such as polyglycol ether while agitating the dispersion in a tank (See column 5, lines 24-40, 46-55; column 6, lines 31-46), to achieve uniform distribution of abrasive particles over the web (See column 6, lines 47-48).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used spraying for applying a dispersion of abrasive substance in melamine

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resin onto a damped paper of Michl by adjusting viscosity with a flow-promoting agent such as polyglycol ether with the expectation of achieving uniform distribution of abrasive particles on the surface of the paper, since Hoover et al teach that a dispersion of abrasive particles in amino-containing resin can be applied onto the surface of a web by spraying through nozzles by adjusting viscosity with a flow-promoting agent such as polyglycol ether so as to achieve uniform distribution of abrasive particles over the web.

As to intended use of the paper laminate, it is held that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). Therefore, the claimed invention is not patentably distinguish over method of Michl in view of Hoover et al since there is no manipulative difference between the method of Michl in view of Hoover et al and that of the claimed invention.

Michl in view of Hoover et al fails to teach that the coating resin composition further comprises 0.5-2.5 parts of silane adhesion promoter, 0.1-0.4 parts of a wetting agent, 0.05-0.4 parts of the separating agent, an amino resin hardener; and the flow-promoting agent is used in an amount of 5-25 parts.

O'Dell et al teach that according to a conventional practice, a protective coating composition comprising a dispersion of abrasive particles (See column 4, lines 26-36) is formulated with various conventional additives such as silane adhesion promoter for improving

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adhesion of the abrasive particles (See column 6, lines 11-15), a small amount of a wetting agent, humectant, mold release agent (a separating agent) and a catalyst (See column 6, lines 3-10) such as Nacure 3525 melamine resin curing catalyst (hardener) depending on intended use of a final coating composition (See column 10, line 24).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used conventional additives such as silane adhesion promoter, a wetting agent, humectant, mold release agent (a separating agent) and a resin curing catalyst (hardener) in a melamine resin composition of Michl in view of Hoover et al with the expectation of achieving benefits such as improved adhesion, better mold release and wetting, accelerated cure, etc., as taught by O'Dell et al.

The amounts of the conventional additives (the silane adhesion promoter, the flow-promoting agent, the wetting agent, the separating agent and the amino resin hardener) added to a resin composition would affect properties of the resin composition, i.e. the additive amounts are result-effective variables.

It is held that it is not inventive to discover the optimum or workable ranges of result-effective variables by routine experimentation. *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). See also *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Also, it is held that concentration limitations are obvious absent a showing of criticality. *Akzo v. E.I. du Pont de Nemours* 1 USPQ 2d 1704 (Fed. Cir. 1987).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have discovered by routine experimentation the optimum amount of additives

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(including claimed amounts) in a melamine resin composition of Michl in view of Hoover et al in view of O'Dell et al in the absence of a showing of criticality.

10. **Claims 5, 7** are rejected under 35 U.S.C. 103(a) as being unpatentable over Michl (US 3,135,643) in view of Hoover et al (US 2,958,593), further in view of O'Dell et al (US 5,344,704), and further in view of Lindgren et al (US 5,034,272).

Michl in view of Hoover et al in view of O'Dell et al fails to teach that abrasive substance comprises: at least one of aluminum oxide and silicon carbide having a mean particle size of 60-160 microns (Claim 5), or a mixture of silicon carbide and aluminum oxide (Claim 7).

Lindgren et al teach that abrasive particles such as silica, aluminum oxide and/or silicon carbide or a mixture of two or more are suitable in a method of making a wear-resistant paper laminate under heat and pressure (See column 3, lines 19-50). In other words, silica abrasive particle is functionally equivalent to silicon carbide and/or aluminum oxide.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used silicon carbide or aluminum oxide or a mixture thereof instead of silica in Michl in view of Hoover et al in view of O'Dell et al since silicon carbide and/or aluminum oxide is functionally equivalent to silica, as shown by Lindgren et al, and the selection of any of these known abrasive particles would be within the level of ordinary skill in the art.

As to particle size being of 60-160 microns, Michl further teach that the maximum particle size of the silica is limited by processing rather than product considerations: the larger particle size results in higher abrasion resistance but at the same time abrades press pans of the laminating press (See column 9, lines 73-75; column 10, lines 1-12), i.e. the particle size of the silica is a result-effective variable. Lindgren et al also teach that the particle size of the abrasive

particles is a result-effective variable: if abrasive particles are too big the surface of the laminate is rough and unpleasant, while too small particles give too low abrasion resistance so that the average particle size should be in the range of 1-80 microns (See column 3, lines 30-35).

It is held that it is not inventive to discover the optimum or workable ranges of result-effective variables by routine experimentation. *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). See also *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have discovered the optimum or workable ranges of the particle size of the silica (including claimed 60-160 microns) in a method of Michl in view of Hoover et al in view of O'Dell et al in view of Lindgren et al by routine experimentation depending on intended use of a final product in the absence of a showing of criticality.

**(11) Response to Argument**

Applicants' arguments filed January 26, 2004 have been fully considered but they are not persuasive.

(A) Applicants argue that reference of Hoover et al does not relate to the production of wear-resistant laminate flooring material. Instead, Hoover et al relates to tool for floor maintenance. Consequently, the skilled person would not have looked to Hoover et al to remedy Michl.

The Examiner respectfully disagrees with this argument. First of all, claim 1 relates not to a method of the production of wear-resistant laminate flooring material but to a method of **impregnating paper** (web), which comprises the step of spraying a dispersion of an abrasive substance in an amino resin onto a paper **web**. Secondly, Hoover et al is relied upon not to show

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how to make tool for floor maintenance. Instead, Hoover et al is cited to show that a coating composition comprising abrasive particles in melamine resin can be evenly sprayed over a web.

One of ordinary skill in the art at would have reasonable expectation of success in applying a coating composition of Michl comprising abrasive particles in melamine resin over paper web by spraying since Hoover et al teach that a coating composition comprising abrasive particles in melamine resin can be evenly sprayed over a web by adjusting viscosity.

(B) Applicants argue that Hoover et al is non-analogous art.

In response to applicant's argument that Hoover et al is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Hoover et al is reasonably pertinent to the particular problem with which the applicant was concerned.

For the above reasons, it is believed that the rejections should be sustained.

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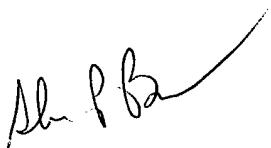
Respectfully submitted,



Elena Tsoy  
Examiner AU 1762  
March 3, 2004

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